

Appendix C

Plant Species Observed on CFA Landfills I, II, and III

NOTE

The references for the plant descriptions are sources such as the following:

- <http://www.ppws.vt.edu/>
- <http://www.holoweb.com/cannon/>
- <http://www.sanangelo.tamu.edu/agronomy/weeds/>
- Anderson, J. E., K. T. Ruppel, J. M. Glemon, K. E. Holte, and R. C. Rope, 1996, Plant Communities, Ethnoecology, and Flora of the Idaho national Engineering laboratory, Enviromental Science and Research Foundation, ESRF-005, Idaho State University, Pocatello, ID.

No attempt was made to identify a specific reference for each individual description.

Plant Species Observed on CFA Landfill I, II, and III



PD02-0444-03

Alfalfa – *Medicago sativa*

Alfalfa is a perennial herb with roots that penetrate the soil as much as 7–9 m (23-30 ft). Its leaves resemble the leaves of common sweet clover, but are usually toothed on the upper half only. Alfalfa has shorter, more head-like clusters of flowers ranging from deep purple to a bluish color. Its most distinctive characteristic is its fruits. These fruits are tightly coiled (more than one complete turn), round spiral pods (Kershaw et al. 1998).



PD02-0444-59

Balloon Flower- *Penstemon palmeri*

Balloon flower has a few sparsely leaved, erect, stout stems that have swollen white to reddish pink bilaterally symmetrical flowers mostly turned to one side in a long, narrow cluster. Flowers are 2.54 to 3.8 cm (1 to 1.5 in.) long. Leaves at largest can be 25.4 cm (10 in.) long, and are long narrow cup shaped. The bases of the paired upper leaves are often joined, with the stem appearing to go through them. The balloon flower can reach 0.6 to 3.1 m (2 to 7 ft) in height.



PD02-0444-69

Big Sagebrush- *Artemisia tridentata*

Big sagebrush is a perennial reproducing from seed. These plants average less than 3 feet in height, but in deep soils this woody species reaches heights over 3.1 m (10 ft). Sagebrush is most abundant in dry, well-drained, gravelly, or rocky soils. It is considered an evergreen although leaves have a gray color in winter months. Leaves are undivided and have a wedge shape and three blunt lobes. Leaves contain essential oils causing them to have a distinct sage odor when they are crushed. They are silver-blue in color because of the dense gray hairs found on both sides. Yellow flowers appear in late August forming panicles. Seeds have one-year viability once they are shed. Older plants have trunks over 3 inches in diameter, which are covered with brown stringy bark.



D02-0444-04

Bluebunch Wheatgrass- *Agropyron spicatum*

Bluebunch wheatgrass is a strongly tufted perennial (bunch grass). The grass can reach 1.5-7.5 cm (0.7-2.8 in.) in height. This wheatgrass has small bristle-like appendages called awns. These awns extend past the internodes of the wheat on the stems. Bluebunch wheatgrass is often found in plains, mountain slopes, and canyons. It will tolerate most soils, but it is most abundant in dry soils.



PD02-0444-05

Bigbract Verbena – *Verbena bracteata*

Bigbract verbena has several stems that lay close to the ground branching from a main root which grow from 10 to 51 cm (4 to 20 in.) long. The leaves are formed opposite of one another in a spear shape and can reach 1 to 7.6 cm (0.4 to 3 in.) long and 0.6 to 3.1 cm (0.25 to 1.2 in.) wide, on a short stalk. Flowers are blue or purple corolla with five lobes. The tiny flowers are almost hidden by the conspicuous bracts.



PD02-0444-06

Bushy Bird Beak- *Cordylanthus ramosus*

Bushy bird beak is an openly branched, spindly plant that has yellow or light purple flowers resembling a bird's beak in clusters at the ends of branches. The flowers are 2 to 3.1 cm (0.8 to 1.2 in.) long. The leaves are about 2.5-5 cm (1-2 in.) long, and divided into 3 or 5 very narrow segments. It is found in open sandy areas on plains and in pine forests.



PD02-0444-07

Canadian Thistle- *Cirsium arvense*

Canadian Thistle is a member of the Aster/ Sunflower family. Canadian thistle was introduced from Europe and spread across Canada and the United States. It is a creeping perennial, which reproduces by seeds and deep, spreading roots that grow horizontally. Its stems are leafy, hollow, and slightly hairy, reaching 30 to 150 cm (12 to 60 in.) in height. The leaves are set close on the stem, slightly clasping, and dark green. Sharp spines are numerous on the outer edges of the leaves and on the branches and main stem of the plant. The flowers are small and compact, about 1.9 cm (0.75 in.) or less in diameter, and light pink to rose-purple in color, rarely white. Infestations are found in cultivated fields, pastures, along roadsides, and in waste areas.



PD02-0444-09

Cheatgrass- *Bromus tectorum*

Cheatgrass is an annual, which reproduces from seeds and grow 10 to 76 cm (4 to 30 in.) in height. It's color is light green when growing and often purple at maturity and generally a light straw yellow after the plants have died. The leaves are 5 to 10 cm (2 to 4 in.) long, flat, and covered with soft fine hairs. Soft "downy" hairs cover its stems and leaves. It has a "drooping" blossom, which contains many seeds. Cheatgrass seeds germinate in the fall and flower in the spring.



PD02-0444-11

Chinch Weed- *Pectis papposa*

Chinch weed has slender stems that branch many times in a forked manner. Chinch weed can grow from 5 to 20 cm (2 to 8 in.) in height. They produce a low, small, leafy plant with small yellow flower heads in bundles at the end of branches. The flowers have heads about 0.3 cm (0.1 in.), wide with 7-9 rays surrounding a small disk, and narrow bracts less than 0.6 cm (0.75 in.) long, lined up side by side and not overlapping. The leaves are up to 3.8 cm (1.5 in.) long, less than 0.3 cm (0.1 in.) wide, dotted with glands, the leaf base broad, translucent, edges have a few lobes tipped by bristles. They are found in open areas on arid plains or in deserts, especially on sandy soil.



PD02-0444-12

Clasping Peppergrass- *Lepidium perfoliatum*

Clasping peppergrass is an annual, 15 to 45 cm (6 to 18 in.) tall. The stems stand erect, branched at the top and hairy. The leaves alternate of two types, the lower dissected and the upper heart-shaped with a clasping base. The flowers are white to yellow with slender stalks. The fruit is a two-valve capsule that contains two reddish-brown, somewhat rough, winged seeds about 0.2 cm (0.08 in.) long.



PD02-0444-13

Crested Wheatgrass- *Agropyron cristatum*

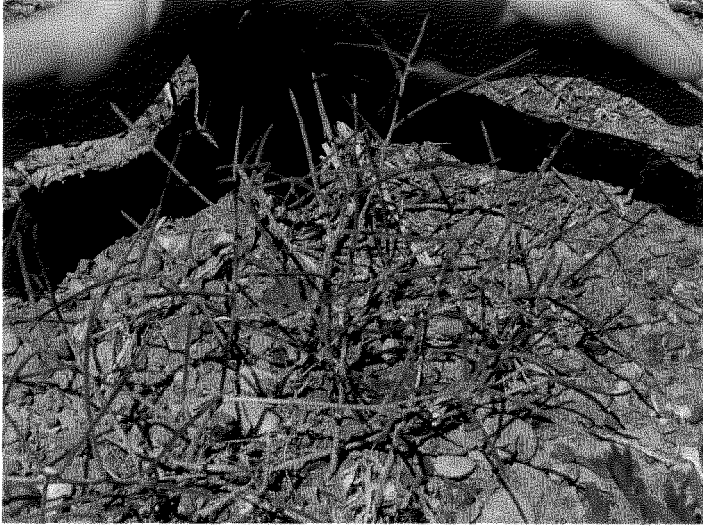
Crusted wheatgrass is a hardy perennial bunch grass. Leaves are abundant, both at the base and along the stems. Leaves are 15 to 25 cm (6 to 10 in.) long, about 0.6 cm (0.25 in.) wide, flat, and slightly hairy on the upper surface. Stems are slender, 0.6 to 0.9 m (2 to 3 ft) in height, growing in dense clumps. It is deep-rooted and drought resistant, well adapted to the Northern Plains and higher elevations in the Rocky Mountains. Growth starts early in spring. This is a highly valuable grass in its area of adaptation.



PD02-0444-14

Curly Dock- *Rumex crispus*

Curly dock, a perennial weed, usually grows in wet areas and is frequently associated with overwatering or standing water in low areas. A member of the buckwheat family, it has characteristic jointed stems, and usually swollen nodes. Mature plants have stout stems and can be 0.6 to 1.6 m (2 to 5 ft) tall. Young seedlings vary in color, from entirely green to being red tinged in the cooler months and have green flowers. The stem dies in the fall while a basal rosette of leaves form. Curly dock can grow from cuttings of its thick main root. Leaves are wavy and begin curling as they branch off the main root. Found throughout the United States primarily as a weed of pastures, hay fields, forages, landscapes, and some agronomic crops.



PD02-0444-56

Cross flower - *Chorispora tenella*

Cross flower, also known as Blue Mustard, is an annual. It can be 13 to 51 cm (5 to 20 in.) high. The leaves are a simple leaf shape, attached by the base, and sticky to the touch. The petals are rose to purple. It grows in grain fields, waste area places, roadsides, and other disturbed places.



PD02-0444-15

Dandelion- *Taraxacum officinale*

Dandelion is a perennial herb from a long, main root that often grows up to 6 inches long, with milky juices. Leafs are clustered at the top of the root crown. They vary in size, from 5-30 cm (2-12 in.)

long, divided into pairs of lobes, which are pointed or blunt at the tips. Flowering heads are 2.5 to 5.1 cm (1-2 in.) across and are yellow petal-like, ray flowers. Heads are solitary at the end of long, hollow stocks lined with milky juice, up to 0.6 m (2 ft) long.



PD02-0444-17

Flax- *Adenolinum lewisii*

Flax has sky-blue saucer-shaped flowers that blossom on stems so slender that they continually sway, even when there is no apparent breeze. Flowers are 1.3 to 2.5 cm (0.5 to 1 in.) across when fully opened and the flower stalks bend downward. Petals drop off after 2 or 3 days. Occasionally a flower is white instead of blue. Stems are 20 to 61 cm (8 to 24 in.) in height arise from a woody crown. Leaves are numerous and very narrow, only 1.3 to 2.5 cm (0.5 to 1 in.) long, and nearly cover the entire stem.



PD02-0444-18

Foxtail Barley- *Hordeum jubatum*

Foxtail barley, a widely distributed native perennial, grows 30 to 60 cm (1 to 2 ft) tall. Unlike hare barley, Foxtail barley has no auricles, but has many thin hair-like appendages, awns, which resembles a fox's tail. These awns range from 1 to 3 inches. The leaves have blades 2.5 to 15 cm (1 to 6 in.) long. Mature plants have a characteristic nodding, bristly open spike. May be found infesting cultivated crops, ditch banks, roadsides, and saline and alkaline areas.



PD02-0444-19

Franklin's Sandwort- *Arenaria franklinii*

Franklin's sandwort is a, low growing, densely tufted perennial, which might be suited for a rock garden with good drainage. The numerous stems spread along the ground and are covered with many leaves. The flowering stems stand erect and range from 3-6 cm (1.2-2.4 in.) in height. The stems are brittle and may shatter at the nodes. The numerous leaves are on the stems and they overlap each other. Individual leaves range from 1-2 cm (2.5-5 in.) long and are linear in shape or sharp pointed at the tip. The tips of the leaves spread outwards from the main axis of the stem.



PD02-0444-24

Fremont's Goosefoot- *Chenopodium fremontii*

Fremont's goosefoot is an annual and perennial herb with bisexual flowers. Stems are usually either glandular or covered with small white inflated hairs. Leaves are simple with alternate blades and occasionally lobed. The flowers are often clustered. Goosefoot grows in small clusters and grows upwards.